

February 17, 2000

Mr. Richard Felder, Associate Administrator  
Office of Pipeline Safety  
U.S. Department of Transportation  
400 Seventh Street, SW  
Washington, DC 20590

Re: Docket No. RSPA-99-6355; Notice 1  
Pipeline Safety: Enhanced Safety and Environmental Protection for Gas  
Transmission and Hazardous Liquid Pipelines in High Consequence Areas

Dear Mr. Felder:

On behalf of the oil pipeline industry, API is submitting supplementary comments to Docket No. RSPA-99-6355 on enhanced safety and environmental protection for gas transmission and hazardous liquid pipelines in high consequence areas (HCAs). The American Petroleum Institute represents over 400 companies involved in all aspects of the oil and gas industry, including exploration, production, and transportation, refining and marketing of petroleum and petroleum products. In addition, API works in conjunction with the Association of Oil Pipe Lines. The memberships of API and AOPL overlap significantly and these comments have been prepared in coordination with both API and AOPL's members.

As an aid to the Office of Pipeline Safety, API has conducted a survey of the capability and current status of integrity testing using in-line inspection tools and pressure testing for the liquid pipeline industry. This letter provides the results of that survey.

#### Nature of the Survey

The survey was conducted in January 2000 and responses were received from 24 companies operating 129,046 miles of liquid pipelines or 82% of the pipeline mileage regulated by OPS (approximately 157,000 miles). Because this survey represents such a large portion of the total mileage, we have projected our statistical summary analysis to the entire 157,000 miles. The time period for information on integrity testing is 1990 to 1999. The integrity testing summary table is attached to this letter.

#### Summary Data

- 89% of US hazardous liquid pipeline mileage is currently capable of being inspected using in-line inspection tools.
- 11% of US hazardous liquid pipeline mileage has significant barriers to in-line inspection tools. These barriers include lack of commercially available in-line inspection tools for

pipeline diameter, bends with radii too tight for tool passage; major restriction (valve design, changes in pipe diameter, etc.) into pipe that would have to be removed. This category also includes mileage that is currently being maintained, but is not in active service.

- Of those companies with more than 500 miles of pipe, companies varied from a high of 39% of miles with barriers to using in-line tools to a low of 0% of mileage with barriers to using in-line tools. Most companies fall within the range of 2–5% of total mileage that currently has barriers to in-line tools.
- We did not received sufficient responses from companies with less than 500 miles of pipe make any definitive statements.
- Attached is a summary table of integrity testing that has been conducted in the last 10 years. This table is a snapshot in time of integrity testing. We believe that the following statements about integrity testing can be made based on this table:

#### Statements About Integrity Testing Based on the API Survey

##### Pressure Testing

- All pipelines constructed since 1970 were pressure tested at the time of original construction. Pipelines constructed prior to 1970 are required to be pressure-tested (or to be tested by alternative means) no later than 2004, based on OPS final rule of December 1998.
- Since 1990, 22% of the pipeline mileage regulated by OPS has been pressure test, subsequent to the test at the time of original construction.
- Since 1995, 8% of the pipeline mileage regulated by OPS has been pressure tested, subsequent to the test at the time of original construction.

##### In-Line Inspection with High-Resolution Tools

- Since 1990, 24% of the pipeline mileage regulated by OPS has been inspected using high-resolution in-line inspection tools.
- Since 1995, 22% of the pipeline mileage regulated by OPS has been inspected using high-resolution in-line inspection tools.
- Ultrasonic tools represent the introduction of a new type of high-resolution technology and their use is increasing. The capabilities of ultrasonic tools are also being validated through field application. Since 1990, 3% of the pipeline mileage regulated by OPS has been inspected using ultrasonic in-line inspection tools. Some portion (undetermined by our survey) of the mileage inspected using an ultrasonic tool may also been inspected using other high-resolution tools.

##### In-Line Inspection with Low-Resolution Tools Only

- Since 1990, 22% of the pipeline mileage regulated by OPS has been inspected using low-resolution tools only.
- Since 1995, 8% of the pipeline mileage regulated by OPS has been inspected using low-resolution tools only.
- These two percentages indicate that pipeline companies are clearly shifting away from using low-resolution tools and toward the use of high-resolution tools. Low-resolution tools continue to have value and are suitable for certain types of pipeline conditions.

#### Total Use of In-Line Inspection Tools

- Since 1990, 49% of the pipeline mileage regulated by OPS has been inspected using in-line inspection tools.
- Since 1995, 31% of the pipeline mileage regulated by OPS has been inspected using in-line inspection tools.
- The trend is clearly toward increasing use of high-resolution tools; however, low-resolution tools continue to have value.
- Based on this survey, we suggest that the current capability of in-line inspection vendors using high-resolution tools to serve the liquid marketplace is about 20% of the total mileage (157,000 miles) over 5 years, or 5% per year (8000 miles) per year. This vendor capability may grow based on demand for the service and capability of a relatively small market to meet demand. The total liquid pipeline mileage with no barriers to in-line inspection could, in theory, be tested using high-resolution inspection tools over a 17-year time period. This is strictly a mathematical assumption, OPS should consider soliciting input from tool vendors.

#### Survey Instrument

A copy of the survey is attached.

If you have questions on how this data was collected, the survey, or the data summary, please contact me.

Sincerely,

A handwritten signature in cursive script, appearing to read "Marty Mat", followed by a horizontal line.

## Integrity Testing Summary (miles)

Company	Low Resolution Tool		High-Resolution Tool		Ultrasonic Tool		Pressure Test	
	1995-1999	1990-1994	1995-1999	1990-1994	1995-1999	1990-1994	1995-1999	1990-1994
A	516	0	53	0	31	0	39	0
B	0	0	500	0	0	0	616	1692
C	54	458	1650	0	0	138	515	1076
D	1770	1330	1050	950	0	0	360	920
E	97	1627	4653	323	0	0	994	4165
F	0	39	20	0	0	0	76	268
G	0	51	2218	0	0	0	138	384
H	0	0	1127	0	0	0	0	0
I	0	0	0	0	800	800	0	0
J	0	0	28	28	0	0	0	0
K	0	0	60	0	0	0	60	200
L	1167	3252	3218	150	0	0	160	175
M	10	2034	1048	0	80	0	1867	1049
N	500	1300	2500	100	0	300	1400	1200
O	401	41	49	0	0	23	165	41
P	731	2312	372	0	420	52	1228	3852
Q	944	1577	0	38	0	125	127	24
R	200	804	1268	295	0	0	172	1047
S	62	97	2567	13	0	75	67	0
T	740	720	2700	0	220	0	0	0
U	637	848	773	336	458	323	109	978
V	2063	2104	2593	0	150	0	2843	0
W	0	0	0	0	0	0	0	0
X	0	64	64	0	0	0	0	0
<b>TOTAL</b>	<b>9892</b>	<b>18658</b>	<b>28511</b>	<b>2233</b>	<b>2159</b>	<b>1836</b>	<b>10936</b>	<b>17071</b>

## Integrity Testing Survey

To: Liquid Pipeline Operators

Please respond only once on behalf of your company.

Please supply the following information:

1. Total system mileage about which you are reporting:		
2. Of total system, estimated mileage that could be pigged (i.e. no physical barriers to conducting an in-line inspection):		
3. Of total system, estimated mileage that cannot currently be pigged (i.e. there is no tool available for diameter; physical barriers to in-line inspection would have to be removed; barrier should be significant, not just inconvenience):		
<b>Testing Conducted Within Last 10 Years</b>		
Type of test	Mileage tested within last 5 years (1995 to 1999)	Mileage tested more than 5 years but less than 10 years ago (1990 – 1994)
Estimated system mileage inspected using low-resolution tool <b>only</b>		
Estimated system mileage inspected using high-resolution tool or tools (excluding ultrasonic)		
Estimated system mileage inspected using an ultrasonic tool		
Estimated system mileage that has been pressure testing other than at the time of initial construction		

Considerations:

1. If you have mileage that has had both a low- and high-resolution or ultrasonic inspection, list it only in the high resolution or ultrasonic category, but not both.
2. If you have mileage that has been tested more than once in the last 10 years using a high-resolution tool and/or ultrasonic tool, add a note to that effect in your response. Don't count the mileage twice in the table.